

ECONOMIC RESEARCH AID

COMPARISON OF PRODUCTS OF LIGHT INDUSTRY
IN THE USSR AND THE US
1959



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CENTRAL INTELLIGENCE AGENCY
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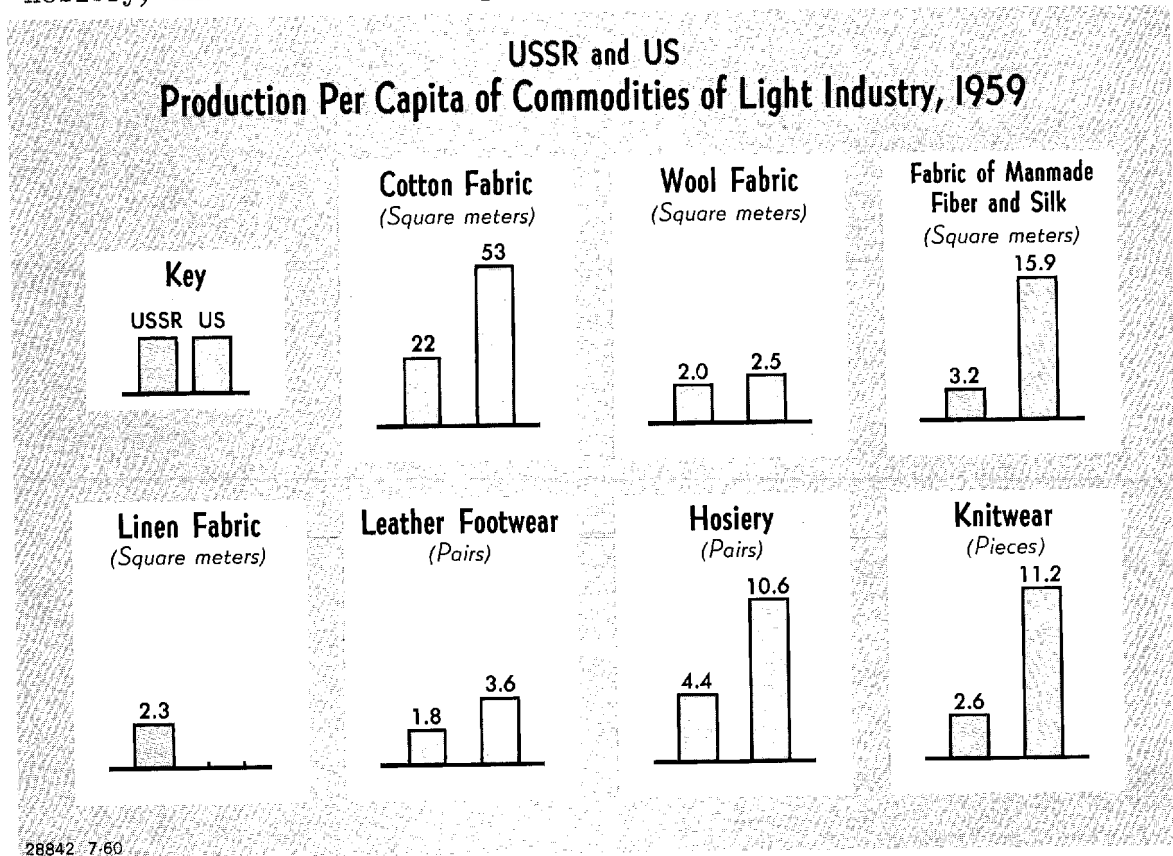
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COMPARISON OF PRODUCTS OF LIGHT INDUSTRY
IN THE USSR AND THE US*
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Summary

The US is far ahead of the USSR in the quantity and quality of commodities produced by light industry. As shown in the following chart, in 1959, US production per capita of textiles, footwear, hosiery, and knitwear was significantly higher than that in the USSR.



The US also produces a greater variety of commodities in each of these categories, and the general level of quality is higher than that in the USSR. Soviet fabrics are narrower and, except for wool, of

* The estimates and conclusions in this research aid represent the best judgment of this Office as of 15 June 1960.

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lighter weight than their US counterparts. Of the total production of cotton fabric in the USSR, a greater proportion consists of utility and clothing fabrics of low quality and a smaller proportion of household fabrics, such as sheeting and toweling, than is true in the US. Soviet wool fabrics are coarser and heavier than those produced in the US and usually are blended with rayon or cotton. Silk and rayon fabrics are relatively common in the USSR, but fabrics of such synthetic fibers as nylon and Dacron have come into production only recently. The footwear and hosiery produced in the USSR are less attractive and less durable than those produced in the US.

1. Introduction

The approval in February 1959 of the Soviet Seven Year Plan (1959-65) has resulted in increased interest in comparisons between the consumer goods available in the USSR and those available in the US. This research aid compares selected commodities produced by light industry in the two countries -- that is, fabrics of cotton, wool, linen, silk, and manmade fibers; leather footwear; knitwear; and hosiery. Sewn clothing, although an important product of light industry, has been excluded because of the lack of comparable data. Statistical comparisons of production of fabric can be made in a number of ways -- by linear or square measure, weight, width, or composition of fibers or yarns. Such measurements have been made for this research aid. Another comparison, equally important but difficult to make, is that of qualities resulting from the technical efficiency of the various processes -- spinning, weaving, dyeing, and finishing. These qualities must be judged by inspection of the finished product and therefore can be given practically no consideration in this research aid. The appearance of Soviet fabrics, however, as reported by travelers to the USSR, testifies to the low technological efficiency of the textile industry.

Until 1959, because Soviet statistics* for production of fabrics were reported only in linear meters, it was necessary to estimate average widths in order to make quantitative comparisons. In 1959, however, the USSR began reporting production of fabrics in square meters, thus making possible more valid quantitative comparisons of production with that in the US and, at the same time, providing an average width factor for each fabric.

* For a list of sources categorized according to types of information, see Appendix B.

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2. Cotton Fabric

Cotton fabric, the basic textile in both the USSR and the US, still is a preferred clothing fabric, is an essential household fabric, and has numerous uses in industry. Since 1950, production of cotton fabric in the US has remained fairly steady, having reached a level sufficient to meet consumer demand. Research and development in the US during this period thus have been directed toward making special improvements in the character of fabrics, such as increasing wrinkle resistance, developing the "drip-dry" finish, and creating interesting new textures in yarns and weaves. The USSR has concentrated largely on boosting the total production of cotton fabric, which still is not sufficient to meet consumer needs, and has given little attention to improvements in quality and development of improved surface characteristics. At this point the Soviet goal of catching up with the West in the field of cotton fabric appears to relate primarily to the quantity of production.

In the US, fabric that is primarily cotton but contains other fibers is reported as cotton fabric. In the USSR, little blending is practiced in production of cotton fabric. The two countries produce a similar range of clothing and household fabrics, but the relative emphasis given to production of various types of cotton fabric in the two countries varies widely, as shown in Table 1.*

In comparing production of cotton fabric in the USSR with that in the US, various means of measurement deserve consideration. The more important of these means of measuring such production are shown in Table 2,** which gives data concerning the supply and consumption of cotton fabric in the USSR and the US in 1959.

In the USSR, cotton fabric is produced largely from domestic cotton but also from cotton produced in Egypt or Asian countries. Although little blending with other fibers is practiced, rayon and synthetic fiber are to be blended with cotton fabric by 1965. US cotton fabric is produced largely from domestic cotton, but blending with rayon and synthetic fiber is more prevalent than in the USSR.

Cotton fabric is wider and heavier in the US than in the USSR. Since 1939, US cotton fabric has increased in average width by about 9 percent, the largest proportionate change being in the fine fabrics. This change, in turn, is reflected in an increase in the average weight per linear meter of cotton fabric and thus in a decline in the number of linear meters per kilogram of fabric. Data of the 1930's and that available since 1954 indicate that the average weight and width of Soviet

* Table 1 follows on p. 4.

** Table 2 follows on p. 5.

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Table 1

USSR and US: Percentage Distribution of Production of Cotton Fabric
by Type of Fabric
1955

Type of Fabric	Percent	
	USSR	US
Print and clothing fabric	40	27
Sheeting	14	19
Gauze, cheesecloth, and related types	11	12
Cotton twill (utility fabric)	10	6
Industrial and technical fabrics	9	5
Toweling	2	5
Fine cotton goods	a/	14
Other (including decorator fabrics, napped fabrics, gray goods, and cotton duck)	14	12
Total	<u>100</u>	<u>100</u>

a. No category. Small quantities probably were counted with print and clothing fabric.

cotton fabric have remained relatively constant. Much smaller quantities of household fabrics such as sheeting and toweling are produced in the USSR than in the US. Finely woven fabric of high thread count also is rarer in the USSR, whereas a coarser utility twill is produced in greater quantities.

3. Wool Fabric

Soviet production of wool fabric, although rivaling that of the US in quantity, still is not sufficient for consumer needs. In 1957 the USSR exceeded the US for the first time in linear meters of wool fabric produced. Measured in square meters, however, US production still is higher. The USSR claims that there has been a change of rank of the two countries in production of wool fabrics, and, since 1946, US production has in fact declined because of woollike fabrics of synthetic fiber that have found increasing favor with consumers. Fabrics of synthetic fiber, a sizable part of which may be considered substitutes for wool, increased from 50 million linear meters in 1947 to 800 million linear meters in 1959, 16 times production in 1947. At present, however, the USSR has only limited quantities of synthetic fiber to be used as substitutes for wool in production of fabric. In the USSR, blending is

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Table 2

USSR and US: Cotton Fabric
1959

Means of Measurement	Unit	USSR	US
Quantity <u>a/</u>			
Total production	Million square meters	4,600	9,354
	Million linear meters	6,100	8,742
Production per capita	Square meters	22	53
	Linear meters	29	49
Consumption per capita	Square meters	21	52
	Linear meters	28	48
Import	Million square meters	18 <u>b/</u>	201
	Million linear meters	24 <u>b/</u>	188
Export	Million square meters	124 <u>b/</u>	397
	Million linear meters	166 <u>b/</u>	371
Average weight <u>c/</u>	Grams per square meter	127	150
	Grams per linear meter	94	161

a. Soviet width averages 0.75 meter, and US width averages 1.07 meters. The figure for width can be used to convert from linear to square meters, but, because of rounding, the result may not agree exactly with announced totals.

b. 1958.

c. Weight is not always an accurate measure of quality. Fine broadcloth, for example, may weigh less than coarse broadcloth. When considered in relation to all types of cotton fabric, however, the greater weight generally is considered an indication of better quality.

employed in order to extend production, whereas blending in the US is directed more often toward achieving a desired effect in the type or quality of fabric. Blending in substitute fiber of up to 33 percent of the total composition generally does not change the properties of wool, but significant changes occur when the fabric consists of more than 50 percent of a substitute fiber, so that some of the qualities of wool are altered.

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A further decline occurred in the reported US production (but not in actual production) of wool fabrics as a result of a change in statistical reporting effected in 1950. Whereas in 1950 and earlier years the category wool fabric included fabric that was at least 25 percent wool, it now includes only fabric that is at least 50 percent wool. In the USSR, fabric containing as little as 30 percent wool is reported as wool fabric. The most common blending practice appears to utilize about 50 percent wool and 50 percent cotton or rayon, whereas pure wool fabric makes up less than 10 percent of the total production. Of the total Soviet production of wool fabric, worsteds comprise about 40 percent, coarse and reclaimed wool fabrics about 20 percent, and other woolens 40 percent. Fabrics not used for apparel, if included, are not designated as such. Of the total US production of wool fabric, 30 to 40 percent is worsted, about 55 to 65 percent is woolen apparel fabric, and about 5 percent is fabric for other purposes. Data concerning the supply and consumption of wool fabric in the USSR and the US in 1959 are shown in Table 3.*

The fine wool needed for production of high-quality woolens and worsteds made up only 27 percent of the total production of raw wool in the USSR in 1957. Also in short supply are synthetic fibers having woollike characteristics, so that fibers available for blending are restricted largely to cotton and rayon.

Wool fabric produced in the US is wider than that produced in the USSR, but Soviet wool fabric is heavier because (1) coarser wools are used, (2) the blending fibers used in the USSR tend to weigh more than those used in the US, and (3) the colder climate in the USSR dictates heavier fabrics.

4. Fabric of Manmade Fiber and Natural Silk

US manmade fibers include both rayon and such synthetic fibers as nylon, Orlon, and Dacron. Fabric of manmade fibers, now more abundant than natural silk, is especially adaptable to production of silklike clothing and household items which have found increasing popular acceptance in the US since the early 1900's. A similar development is underway in the USSR, where rayon fabric has become relatively commonplace but where fabric of synthetic fiber has come into production only recently.

Although manmade fibers originally were used as substitutes for silk, they more recently have been used as substitutes for wool. Because of the increasing popularity of the new and varied types of fabric of synthetic fiber, the US has experienced a decline in production of

* Table 3 follows on p. 7.

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Table 3

USSR and US: Wool Fabric
1959

Means of Measurement	Unit	USSR	US
Quantity <u>a/</u>			
Total production	Million square meters	416	434
	Million linear meters	327	280
Production per capita	Square meters	2.0	2.5
	Linear meters	1.6	1.6
Consumption per capita	Square meters	2.1	2.7
	Linear meters	1.6	1.7
Import	Million square meters	18 <u>b/</u>	39
	Million linear meters	14 <u>b/</u>	25
Export	Million square meters	Negligible <u>b/</u>	Negligible
	Million linear meters	Negligible <u>b/</u>	Negligible
Average weight	Grams per square meter	364	279
	Grams per linear meter	462	431

a. Soviet width averages 1.27 meters, and US width averages 1.55 meters. The figure for width can be used to convert from linear to square meters, but, because of rounding, the result may not agree exactly with announced totals.
b. 1958.

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rayon since World War II. Production of rayon in 1958 was only 78 percent of that in 1951. The USSR, for its part, is in a much earlier stage of development, producing very small quantities of fabric of synthetic fiber and striving for rapid increases in production of rayon fabric.

In the USSR the term silk is used to represent a variety of fabrics woven of manmade fiber and natural silk. These fabrics are predominantly silklike in appearance, contrasted with the woollike character of some US fabrics of synthetic fiber. In the US, terminology and statistical counting are more explicit: fabric is identified by type, and the amount of production of each type is reported. A comparison of production of fabrics of manmade fiber and natural silk in the two countries is shown in Table 4. Data concerning the supply and consumption of fabric of manmade fiber and natural silk in the USSR and the US in 1959 are shown in Table 5.*

Table 4

USSR and US: Production of Fabric
of Manmade Fiber and Natural Silk, by Type of Fabric a/
1958

Million Linear Meters		
Type of Fabric	USSR	US
Rayon <u>b/</u>	793	1,496
Natural silk	52	23
Synthetic fiber <u>c/</u>	Negligible	638
Total	<u>845</u>	<u>2,157</u>

a. Latest data available for Soviet production.

b. Includes fabrics of viscose and acetate rayon.

c. Includes, largely, fabrics of nylon, Dacron, acrylic, and vinyl fibers.

In the USSR, rayon is the predominant fiber used in this category of fabrics. Much of the Soviet supply of rayon is imported. Natural silk makes up only about 6 percent of the fibers in this category, and synthetic fiber constitutes an even smaller percent. In the US, 30 percent of the fibers in this group are synthetic. Fabric of manmade fiber

* Table 5 follows on p. 9.

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Table 5

USSR and US: Fabric of Manmade Fiber and Natural Silk
1959

Means of Measurement	Unit	USSR	US
Quantity <u>a/</u>			
Total production	Million square meters	663	2,820
	Million linear meters	811	2,274
Production per capita	Square meters	3.2	15.9
	Linear meters	3.9	12.8
Consumption per capita	Square meters	3.3	15.1
	Linear meters	4.1	12.2
Import	Million square meters	42 <u>b/</u>	Negligible
	Million linear meters	51 <u>b/</u>	Negligible
Export	Million square meters	6 <u>b/</u>	139
	Million linear meters	8 <u>b/</u>	112
Average weight	Grams per square meter	154	126
	Grams per linear meter	126	156

a. Soviet width averages 0.82 meter, and US width averages 1.24 meters. The figure for width can be used to convert from linear to square meters, but, because of rounding, the result may not agree exactly with announced totals.

b. 1958.

and natural silk is generally narrower in the USSR than in the US, and substantial differences occur when types of fabric are compared on other bases. The US produces a wide variety of fabrics of manmade fiber and natural silk that vary in texture and weave and are designed for a wide range of household, clothing, and industrial uses. Soviet production is restricted to a relatively few basic types.

5. Linen Fabric

The USSR, a producer of flax and linen fabric for centuries, continues annually to achieve small increases in production. The US,

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however, produces very little linen fabric and uses only small quantities of linen fiber in its textile industry. Linen fabric in the USSR is used extensively for industrial purposes, about 70 percent of production having been devoted to such purposes in 1955. Of the industrial linen produced, more than one-half was used as packaging material for industrial products. Linen fabric available for consumer uses is divided between clothing and household fabrics. Data concerning the supply and consumption of linen fabric in the USSR and the US in 1959 are shown in Table 6.*

6. Leather Footwear

Although the USSR long has been noted for its production of leather goods, Soviet production of footwear is inadequate both in quantity and in quality to meet the needs of the population. Poor durability and a restricted selection of models and sizes are the most common criticisms heard from the consumer. Most of the Soviet plants producing footwear are poorly equipped, and hand labor continues to be extensive. US factories, already producing footwear in relative abundance, direct their efforts toward further improving industrial techniques, procuring new materials, producing new styles, and increasing differentiation of product.

Soviet statistics for footwear (which exclude rubber footwear such as boots and galoshes and felt footwear) include shoes made entirely of leather, those with leather uppers, and those with textile or artificial leather uppers. Tennis shoes and "sneakers" probably also are included. US statistics on production of footwear include leather shoes, play shoes, sandals, athletic shoes, and slippers but exclude tennis shoes, sneakers, and rubber footwear. Data concerning footwear in the USSR and the US in 1959 are shown in Table 7.**

Materials used in Soviet production of footwear, in addition to high-quality leather, include also sizable quantities of pigskin, kid, and goatskin and various substitute materials. Textiles and artificial leather also are used for shoe uppers, as are rubber and composition for soles. In 1955 it was reported that 20 percent of Soviet footwear had uppers of textile material or a combination of textile material and leather or artificial leather. In both countries, materials for production of uppers are about 80 percent leather. Inputs of materials in the US include greater quantities of high-quality leathers and skins, a variety of special textiles, and an abundance of synthetic materials such as Neolite for long-wearing soles and nylon for heels.

* Table 6 follows on p. 11.

** Table 7 follows on p. 12.

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Table 6

USSR and US: Linen Fabric
1959

Means of Measurement	Unit	USSR	US
Quantity <u>a/</u>			
Total production	Million square meters	484	Negligible
	Million linear meters	529	Negligible
Production per capita	Square meters	2.3	Negligible
	Linear meters	2.5	Negligible
Consumption per capita	Square meters	2.4	N.A.
	Linear meters	2.6	N.A.
Import	Million square meters	14 <u>b/</u>	N.A.
	Million linear meters	15 <u>b/</u>	3 <u>c/</u>
Export	Million square meters	Negligible <u>b/</u>	Negligible
	Million linear meters	Negligible <u>b/</u>	Negligible
Average weight	Grams per square meter	200	N.A.
	Grams per linear meter	182	N.A.

a. Soviet width averages 0.91 meter. The figure for width can be used to convert from linear to square meters, but, because of rounding, the result may not agree exactly with announced totals.

b. 1958.

c. 1957.

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Table 7

USSR and US: Footwear
1959

Category	Unit	USSR	US
Total production	Million pairs	389	632
Production per capita	Pairs	1.8	3.6
Consumption per capita	Pairs	2.0	3.6
Imports	Million pairs	24.5 <u>a/</u>	11.0
Exports	Million pairs	0.3 <u>a/</u>	2.9

a. 1958.

Although the product mix of footwear in the USSR is hardly comparable to that in the US, certain differences in the product mixes tend to offset each other. US statistics, for example, include a sizable number of slippers, whereas Soviet production of slippers is small. US statistics, however, exclude tennis shoes and sneakers, whereas Soviet statistics are believed to include such items. Aside from the volume of production, the great difference between US and Soviet footwear lies in the quality of the finished product, which reflects the quality of the materials used and the details of construction. In these respects the USSR lags seriously behind the US.

7. Hosiery

The quantity of hosiery per person that was available for consumption in the USSR in 1959 was less than one-half that in the US. Furthermore, Soviet hosiery is largely a cheap cotton product of low durability and unattractive appearance, typical of US hosiery nearly 40 years ago. Of the Soviet output of hosiery in 1955, 79 percent was cotton, 10 percent rayon, 9 percent nylon, and 2 percent wool. In the US, 67 percent of the hosiery produced in 1958 was nylon, 25 percent cotton, and the remaining 8 percent rayon and wool. Nylon elasticized yarns are widely used in US hosiery, especially for men's and children's hose, whereas Soviet production of elasticized nylon yarn is still in the initial stage. Data concerning production of hosiery in the USSR and the US in 1959 are shown in Table 8.*

* Table 8 follows on p. 13.

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Table 8

USSR and US: Production of Hosiery
1959

Category	Unit	USSR	US
Total production	Million pairs	926 <u>a/</u>	1,870 <u>b/</u>
Cotton	Million pairs	732	470
Rayon	Million pairs	93	70
Nylon	Million pairs	83	1,250
Wool	Million pairs	18	80
Production per capita	Pairs	4.4	10.6

a. Distribution by type, based on production in 1955.

b. Distribution by type, based on production in 1958.

8. Knitwear

Soviet light industry produces annually about one-fourth as much knitwear as is produced in the US, including knit underwear and such knit outerwear as sweaters, jackets, and headgear. Supplies are supplemented in the USSR to a small degree by imports, but these are not extensive. Table 9* shows the relative production of knitwear in the two countries.

* Table 9 follows on p. 14.

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Table 9

USSR and US: Production of Knitwear
1959

<u>Category</u>	<u>Unit</u>	<u>USSR</u>	<u>US</u>
Production			
Outerwear	Million pieces	103	515
Underwear	Million pieces	438	1,475
Total	Million pieces	<u>541</u>	<u>1,990</u>
Production per capita			
Outerwear	Pieces	0.5	2.9
Underwear	Pieces	2.1	8.3
Total	Pieces	<u>2.6</u>	<u>11.2</u>

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